

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CORRECTION
103 DOC 730
FIRE PREVENTION & SAFETY
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MASSACHUSETTS DEPARTMENT OF CORRECTION	DIVISION OF RESOURCE MANAGEMENT
FIRE PREVENTION & SAFETY PROCEDURES	103 DOC 730

PURPOSE: The purpose of this document is to establish Department of Correction ("Department") policy regarding fire prevention and safety procedures at all correctional facilities.

REFERENCES: M.G.L. c. 124 § 1 (c) and (q)
M.G.L. c. 143 § 2A

APPLICABILITY: Staff/Inmates **PUBLIC ACCESS/ACCESS:** Yes

MAINTENANCE OF POLICY: Department Central Policy File
Superintendent's Office

RESPONSIBLE STAFF FOR IMPLEMENTATION & MONITORING OF POLICY
- Deputy Commissioner of Administrative Services Division
- Superintendents

EFFECTIVE DATE: 09/22/2012

CANCELLATION: 103 DOC 730.00 cancels all previous Department policy statements, bulletins, directives, orders, notices, rules, or regulations regarding the safety and well being of the inmates and staff in correctional institutions which are inconsistent with this policy.

SEVERABILITY CLAUSE: If any part of 103 DOC 730.00 is, for any reason, held to be in excess of the authority of the Commissioner, such decision shall not affect any other part of this policy.

730.01 DEFINITIONS

All definitions, except for those below, may be found in the "Glossary" issued by the Policy Development and Compliance Unit:

1. **Authority Having Jurisdiction** - The state, local, or other regional, department or individual having statutory who is knowledgeable about the requirements of the National Fire Protection Life Safety Code, the 780 CMR State Building Code and the National Electric Code as adopted by the Commonwealth of Massachusetts under 527 CMR Board of Fire Prevention Regulations, within correctional institutions. This person may be employed by the department/agency (i.e., Director of Resource Management or certified designee), provided that he or she is not under the authority of the facility administrator.
2. **Fire Safety Officer** - A staff member trained in the application of jurisdictional fire safety codes and regulations who is responsible for conducting inspections of the institution for compliance with applicable codes and regulations.
3. **Local Fire Official** - The municipal officer responsible for implementing fire prevention regulations and practices, providing fire protection services, and who may inspect facilities for compliance required codes and regulations.
4. **Qualified Staff Member** - A staff member who has received training in, and is familiar with, the applicable fire safety codes, regulations, and inspection techniques and has the authority to make corrections when deficiencies are found. **AT A MINIMUM**, on-the-job training from the Fire and Safety Officer regarding applicable codes and regulations, etc. is expected, including the use of checklists and methods of documentation.
5. **State Building Code** - The code on fire and safety regulations established by the State Building Code Commission.
6. **State Fire Marshal** - The Office within the Department of Public Safety that is responsible to investigate and

inspect facilities within the state to determine compliance with applicable state codes and regulations.

730.02 **COMPLIANCE WITH LIFE SAFETY CODES**

It shall be the goal of each institution to obtain documentation from the authority having jurisdiction that structural safety and fire safety of the facility complies with applicable codes as required by statute and to the extent consistent with essential security requirements. The authority having jurisdiction may approve any variances, exceptions, or equivalencies that do not constitute a serious life safety threat to the occupants or employees of the facility. There shall be documented plans of action for addressing deficiencies within a reasonable time period.

730.03 **FIRE PREVENTION PROCEDURES**

Each Superintendent or designee shall establish written procedures for the prevention and prompt control of fire, that comply with the "State Building Code" (780 CMR). These procedures shall include, at a minimum, but not be limited to:

1. Documented provision for an adequate fire protection service (e.g. local fire department);
2. A system of documenting:
 - A. internal fire inspections to be conducted at least monthly and,
 - B. testing of equipment to be conducted at least quarterly; or at other intervals approved by the Authority Having Jurisdiction.
3. An annual inspection conducted either by local or state fire officials or other qualified staff member from a different facility than the one being inspected;
4. Availability of fire protection equipment at appropriate locations throughout the institution. Such equipment shall be maintained in good working order and regularly inspected;

5. Dissemination of fire and emergency plans to appropriate local and state authorities; and,
6. Seeking technical assistance from local, state, or other qualified fire authorities, in the areas of fire safety, appropriate training, fire detection and alarm systems, facility furnishings, fire drills, location of fire fighting equipment, and other appropriate fire prevention procedures.

730.04

FIRE & EMERGENCY EVACUATION PLANS

Each Superintendent shall develop a written fire and emergency evacuation plan that specifies how the facility and specific areas within the facility are to be evacuated in the event of fire or other emergency. The plan shall be certified by an independent, outside inspector trained in the application of fire codes (who may be from a federal, local, state, or other qualified fire authority). The plan shall be reviewed annually, updated if necessary, and include, but not be limited to:

1. Location of building/room floor plans;
2. Use of exit signs and directional arrows for traffic flow;
3. Location of publicly posted evacuation diagrams;
4. At least quarterly fire drills in all institution locations, including administrative areas, shall be conducted at medium and maximum security facilities. All drills on the 7x3 and 3x11 shifts shall be evacuation drills with the exception of units housing inmates with security concerns (i.e. DDU, special management units etc.). Evacuation drills will not be required on the 11x7 shift due to low staffing levels, however, during these simulated drills staff will be walked through the scenario and evacuation routes will be discussed and shown.
5. In pre-release and minimum security facilities, evacuation drills are conducted in all facility

locations, and on each shift including administrative areas at least once every quarter.

6. Staff drills when evacuation of extremely dangerous inmates may not be included.

This plan shall be issued and, if updated or revised, reissued to the local fire jurisdiction.

730.05

ANNUAL INSPECTIONS

1. The Department of Public Safety's State Fire Marshal's Office, the authority having jurisdiction or a qualified staff member shall inspect each institution at least annually, with a copy of the report submitted to the appropriate Assistant Deputy Commissioner. The qualified staff member shall possess a Department fire safety officer qualification course certificate and be employed at a facility other than the one being inspected. The inspection is to determine compliance with the requirements of applicable state/local codes and regulations. The code at the time of design and construction shall be the governing code. If no code existed, then the existing structures section of the code shall govern.
2. Each Superintendent shall ensure the conspicuous posting of copies of the institution's current "Certificate of Inspection" when such certificate is issued by the Department of Public Safety or the local authority having jurisdiction. Certificates shall be posted on each floor or level of the buildings inspected.

730.06

FIRE SAFETY OFFICER

1. Appointment

There shall be a qualified Fire Safety Officer, appointed by the Superintendent, at each institution to coordinate the implementation of applicable safety and fire prevention standards.

2. Training

This person shall be trained in the application of jurisdictional fire safety codes. Training is often obtained from code officials or inspectors (e.g. fire marshals); government agencies that have statutory authority for inspections in a particular area (e.g. fire department); or a private organization (e.g. the National Fire Protection Association).

At a minimum, the qualified Fire Safety Officer shall be:

- A. Familiar with the applicable codes and regulations and their requirements;
- B. Able to complete checklists and prepare the necessary reports and;
- C. Have the authority to make corrections when deficiencies are found.

3. Responsibilities

The responsibilities of the Fire Safety Officer shall include, but not be limited to:

- A. Performing a comprehensive and thorough monthly inspection of the institution for compliance with safety and fire prevention standards. These inspections shall be documented through a written monthly report to the Superintendent or designee of such conditions;
- B. Coordinating and documenting the training of institutional staff to perform weekly fire and safety inspections. The qualified staff shall perform inspections of assigned areas for compliance with fire and safety standards and submit a written report to the Fire Safety Officer;
- C. Assisting in developing training for institution staff in the areas of fire,

safety, evacuation, and inspection procedures;
and,

- D. Assisting in developing plans of action to implement the recommendations of any internal or external fire and safety inspections.
- E. Ensure that all fire drills in accordance with 103 DOC 730.04 of this policy are documented in a spreadsheet format with at minimum, the date, shift and location of the simulated or evacuation fire drill.

730.07 **FIRE AND SAFETY TRAINING**

1. Orientation

Each institution shall provide training for all personnel in the implementation of fire and other emergency plans, policies, and procedures as part of orientation training.

2. In-Service Training

Each institution shall provide periodic in-service training for appropriate personnel in fire prevention, detection, use of emergency equipment, and evacuation procedures as part of the on-going training program.

3. Toxic Caustic Materials Training

Each institution shall train staff and offenders in the proper use and safe handling of toxic, caustic materials.

730.08 **FIRE ALARM/CARBON MONOXIDE SYSTEM**

Each institution shall have a fire alarm/carbon monoxide (where applicable) and automatic detection system, approved by the authority having jurisdiction, capable of alerting personnel at the control center to the presence of fire, smoke or carbon monoxide in the facility, or there is a plan for addressing this deficiency consistent with the procedures established by the Commonwealth for capital projects. The authority

having jurisdiction should approve any variances, exceptions, or equivalencies that do not constitute a serious life safety threat to the occupants or employees of the institution. The fire alarm/carbon monoxide system shall be tested at least quarterly for effectiveness and shall be repaired or replaced if necessary.

730.09 MEANS OF EGRESS

1. Emergency Exits

Each institution shall have emergency exits which are properly positioned, clear, and distinctly and permanently marked to ensure the timely evacuation of inmates and staff in the event of fire or other emergency.

2. Exit Door Keys

When exit doors are locked for security reasons, keys shall be immediately available and recognizable to personnel on duty.

3. Release Of Inmates From Locked Areas

Each superintendent shall develop a written policy and procedure specifying the means for the immediate release of inmates from locked areas in case of emergency. This policy and procedure shall provide for a manual backup system if the power locks fail. If this is contained in other institution policies or procedures, then said policies or procedures shall be referenced here.

4. Housing Areas And Places Of Assembly

All housing areas and places of assembly for fifty (50) or more persons are required to have exits in accordance with 780 CMR, State Building Code but in no case shall this be less than two (2) in number.

730.10 **EMERGENCY POWER**

In the event of a loss of power, each institution shall have an emergency power source capable of providing 100% power for the normal operation of the institution. Power generators shall be inspected weekly and load tested quarterly, at a minimum, or in accordance with manufacturer's recommendations and instruction manual.

Institutions without the emergency power source shall develop a plan for addressing this deficiency within a reasonable time period in accordance with the capital outlay procedures and subject to legislative appropriation. The plan, including any variances, exceptions or equivalencies that do not constitute a serious life safety threat, shall meet with the approval of the Department's Division of Resource Management.

730.11 **FIRE RETARDANT FURNISHINGS & MATERIALS**

Each institution shall have documentation showing specifications for the fire safety performance requirements of facility furnishings and materials.

1. Use Of Fire Proof or Fire Retardant Furnishings & Materials

Only fire proof or fire retardant furnishings and materials shall be used (e.g. mattresses, curtains, wastebaskets, etc.);

2. Use Of Polyurethane In Living Areas

Polyurethane shall not be used in any living areas.

3. Limitation Of Inmate Possessions

Each correctional facility shall develop procedures to limit inmate possessions so as not to create any fire hazards. If these procedures are contained in other policies or regulations, said policies or regulations shall be referenced here.

730.12 **FLAMMABLE, CAUSTIC, TOXIC MATERIALS**

Each institution shall develop and implement written procedures concerning flammable, toxic, and caustic materials, which comply with recommended Department and A.C.A. guidelines (see Attachment A), and the Hazardous Substance Disclosure by Employers law (M.G.L. c 111F, § 1 et seq.), and include, at a minimum:

1. Storage Procedures

Proper storage procedures for all flammable, caustic, and toxic materials;

2. Proper Dispensing And Use

Procedures for use to include proper dispensing and use of such materials and provisions for necessary supervision;

3. Dispersement; Issuance And Control

A system of issuance and control to include an inventory system and a log of dispersement;

4. Inmate Possession; Listing

Consistent with the security level of the institution, a listing of such materials, if any, which inmates may have in their possession, and;

5. Noncombustible Receptacles

Provision of noncombustible receptacles for smoking materials and separate containers for other combustible refuse at appropriate and accessible locations throughout the institution's living quarters. Special containers shall be provided for flammable liquids and for rags used with flammable liquids. All receptacles and containers shall be emptied and cleaned daily;

6. Substance With More Than One Property

If a substance possesses more than one property, then the safety requirements for all applicable properties should be considered.

7. A.C.A. And Department Guidelines

The A.C.A. and Department guidelines pertaining to flammable, caustic, and toxic materials (Attachment 1 of this policy, which is also Attachment C of the Standards for Adult Correctional Institutions, 3rd Edition) shall be incorporated into each institution's procedure's for the 103 DOC 730.00. This shall **NOT** substitute for written procedures pertaining to flammable, caustic, and toxic materials.

If policies or procedures regarding flammable, caustic, or toxic materials are contained in the institution's or facility's other policies or procedures, said policies or procedures shall be referenced here.

730.13 SMOKING

1. Employee Smoking

Smoking by all Department of Correction employees is subject to the rules and regulations in, or arising from, the Department's policy on *Employee Smoking* (103 DOC 203);

2. Inmate Smoking

Smoking by all inmates of the Department of Correction are subject to the rules and regulations in, or arising from, the Department's policy on *Inmate Smoking* (103 DOC 444);

3. Other Smoking Related Standards

In addition to the Policies cited in paragraphs 1 and 2 of this section, the following standards shall also apply whenever applicable:

A. Smoking Or Open Flames Prohibited

Smoking or open flames are prohibited within fifty feet of gasoline storage facilities, garage or maintenance shops where oils or cleaning solvents are present, as well as

other hazardous areas (e.g. industrial, vocational training, etc.);

B. Combustible Surfaces

Lighted smoking materials shall not be placed on combustible surfaces;

C. Discard Of Smoking Materials

Only designated receptacles will be used for the discard of smoking materials.

Appendix C
Guidelines for the Control and Use of
Flammable, Toxic, and Caustic Substances

This appendix provides definitions and recommendations to assist agencies in the application of standards that address the control of materials that present a hazard to staff and inmates.

Substances that do not contain any of the properties discussed in the guidelines but are labeled "Keep out of reach of children" or "May be harmful if swallowed" are not necessarily subject to the controls specified in the guidelines. Their use and control, however, including the quantities available, should be evaluated and addressed in agency policy. Questions concerning the use and control of any substance should be resolved by examining the manufacturer's Material Safety Data Sheet.

I. Definitions

Flash point-The minimum temperature at which a liquid will give off sufficient vapors to form an ignitable mixture with the air near the surface of the liquid (or in the vessel used).

Flammable liquid-A substance with a flash point below 100 degrees Fahrenheit (37.8 degrees Centigrade). Classified by flash point as a Class I liquid. (See Table C.)

Combustible liquid-A substance with a flash point at or above 100 degrees Fahrenheit. Classified by flash point as a Class II or Class III liquid. (See Table C.)

Toxic material-A substance that, through chemical reaction or mixture, can produce possible injury or harm to the body by entry through the skin, digestive tract, or respiratory tract. The toxicity is dependent on the quantity absorbed and the rate, method, and site of absorption. (See Table C.)

Caustic material-A substance capable of destroying or eating away by chemical reaction. (See Table C.)

It is possible that a substance may possess more than one of the above properties; therefore the safety requirements for all applicable properties should be considered.

II. General Guidelines

A. Issuance

All flammable, caustic, and toxic substances should be issued (i.e., drawn from supply points to canisters or dispensed) only under the supervision of authorized staff.

B. Amounts

All such substances should be issued only in the amount necessary for one day's needs.

C. Supervision

All persons using such substances should be closely supervised by qualified staff.

D. Accountability

All such substances must be accounted for before, during, and after their use.

Table C
Common Flammable, Toxic, and Caustic Substances

Class I Liquids	Toxic Substances
Gasoline	Ammonia
Benzine (Petroleum ether)	Chlorine
Acetone	Antifreeze
Hexane	Duplicating fluid
Lacquer	Methyl alcohol (Wood alcohol or
Lacquer thinner	Defoliants
Denatured alcohol	Herbicides
Ethyl alcohol	Pesticides
Xylene (Xylol)	Rodenticides
Contact cement (flammable)	
Toluidi (Toluene)	Caustic Substances
Methyl ethyl ether	
Methyl ethyl ketone	Lye
Naphtha Y, M, and P	Muriatic acid
	Caustic soda
	Sulfuric acid
	Tannic acid
Class II Liquids	
Diesel fuel	
Motor oil	
Kerosene	
Cleaning solvents	
Mineral spirits	
Agitene	
Class III Liquids	
Paints (oil base)	
Linseed oil	
Mineral oil	
Neatsfoot oil	
Sunray conditioner	
Guardian fluid	

III. Specific Guidelines for Storage, Use, and Disposal

A. Flammable and Combustible Liquids

Any liquid or aerosol that is required to be labeled "Flammable" or "Combustible" under the Federal Hazardous Substances Labeling Act must be stored and used according to label recommendations and in a way that does not endanger life and property.

1. Storage

Lighting fixtures and electrical equipment in flammable liquid storage rooms must conform to the *National Electrical Code* requirements for installation in hazardous locations.

Storage rooms must meet the following specifications:

- Be of fire-resistant construction and properly secured
- Have self-closing fire doors at all openings
- Have either a four-inch sill or a four-inch depressed floor (inside storage rooms only)
- Have a ventilation system-either mechanical or gravity flow within twelve inches of the floor-that provides at least six air changes per hour in the room

Each storage cabinet must be

- Properly constructed and securely locked.
- Conspicuously labeled "Flammable-Keep Fire Away."
- Used to store no more than sixty gallons of Class I or Class II liquids or 120 gallons of Class III liquids.

Storage rooms and cabinets must be properly secured and supervised by an authorized staff member any time they are in use. Doors and cabinets shall be placed so that they do not obstruct access to exits, stairways, and other areas normally used for evacuation in the event of fire or other emergency.

All portable containers for flammable and combustible liquids other than the original shipping containers must be approved safety cans listed or labeled by a nationally recognized testing laboratory. Containers should bear legible labels identifying the contents.

All excess liquids should remain in their original container in the storage room or cabinet. All containers should be tightly closed when not in use.

2. Use

The use of any flammable or combustible liquid must conform with the provisions and precautions listed in the manufacturer's Material Safety Data Sheet.

Flammable and combustible liquids can be dispensed only by an authorized staff member. The only acceptable methods for drawing from or transferring these liquids into containers inside a building are (1) through a closed piping system; (2) from safety cans; (3) by a device drawing through the top; or (4) by gravity through an approved self-closing system. An approved grounding and bonding system must be used when liquids are dispensed from drums.

Only liquids with a flash point at or above 100 degrees Fahrenheit (e.g., Stoddard solvents, kerosene) can be used for cleaning. Such operations must be performed in an approved parts cleaner or dip-tank fitted with a fusible link lid with a 160 degree F melting-temperature link. *Under no circumstances can flammable liquids be used for cleaning.*

3. Disposal

Excess flammable or combustible liquids must be disposed of properly. The Material Safety Data Sheet for each substance prescribes the proper method of disposal and related precautions.

4. Spills

Information on the proper course of action for chemical spills is contained in the Material Safety Data Sheet for each substance.

B. Toxic and Caustic Substances

1. Storage

All toxic and caustic materials are to be stored in their original containers in a secure area in each department. The manufacturer's label must be kept intact on the container.

2. Use

Toxic and caustic substances can be drawn only by a staff member. The Material Safety Data Sheet for each substance details the necessary provisions and precautions for its use.

Unused portions are to be returned to the original container in the storage area or, if appropriate, stored in the storage area in a suitable, clearly labeled container.

3. Disposal

See disposal guidelines for Flammable and Combustible Liquids above.

4. Spills

See spills guidelines for Flammable and Combustible Liquids above.

C. Poisonous Substances

Poisonous substances or chemicals are those that pose a very high (Class I) caustic hazard due to their toxicity. Examples: methyl alcohol; sulfuric acid; muriatic acid; caustic soda; tannic acid. There are special precautions on the control and use of methyl alcohol (also known as wood

alcohol or methanol), which is a flammable, poisonous liquid commonly used in industrial applications (e.g., shellac thinner, paint solvent, duplicating fluid, solvents for leather cements and dyes, flushing fluid for hydraulic brake systems). *Drinking methyl alcohol can cause death or permanent blindness.*

The use of any product containing methyl alcohol must be directly supervised by staff. Products containing methyl alcohol in a diluted state, such as shoe dye, may be issued to inmates or residents, but only in the smallest workable quantities.

Immediate medical attention is imperative whenever methyl alcohol poisoning is suspected.

D. Other Toxic Substances

1. Permanent antifreeze containing ethylene glycol should be stored in a locked area and dispensed only by authorized staff.
2. Typewriter cleaner containing carbon tetrachloride or trichloroethane should be dispensed in small quantities and used under direct supervision.
3. The use of cleaning fluid containing carbon tetrachloride or trichloroethylene must be strictly controlled.
4. Glues of all types may contain hazardous chemicals and should receive close attention at every stage of handling. Nontoxic products should be used when possible. Toxic glues must be stored under lock and used under close supervision.
5. The use of dyes and cements for leather requires close supervision. Nonflammable types should be used whenever possible.
6. Ethyl alcohol, isopropyl alcohol, and other antiseptic products should be stored and used only in the medical department. The use of such chemicals must be closely supervised. Whenever possible, such chemicals should be

diluted and issued only in small quantities so as to prevent any injurious or lethal accumulation.

7. Pesticides contain many types of poisons. The staff member with responsibility for the facility's safety program should be responsible for purchasing, storing, and dispensing any pesticide. All pesticides should be stored under lock. NOTE: Only chemicals approved by the Environmental Protection Agency shall be used. DDT and 1080 (sodium fluoracetate) are among those chemicals absolutely prohibited.

8. Herbicides must be stored under lock. The staff member responsible for herbicides must have a current state license as a Certified Private Applicator. Proper clothing and protective gear must be used when applying herbicides.

9. Lyes must be used only in dye solutions and only under the direct supervision of staff.

IV. Responsibilities

A. Inventories

Constant inventories should be maintained for all flammable, toxic, and caustic substances used and stored in each department. A bin record card should be maintained for each such substance to accurately reflect acquisitions, disbursements, and the amounts on hand.

B. Departmental Files

Each department using any flammable, toxic, or caustic substance should maintain a file of the manufacturer's Material Safety Data Sheet for each substance. This file should be updated at least annually. The file should also contain a list of all areas where these substances are stored, along with a plant diagram and legend. A copy of all information in the file, including the Material Safety Data Sheets, should be supplied to the staff member responsible for the facility's safety program.

C. Master Index

The person responsible for the facility's safety program should compile a master index of all flammable, caustic, and toxic substances in the facility, including their locations and Material Safety Data Sheets. This information should be kept in the safety office (or comparable location) and should be supplied to the local fire department. The master index should also contain an up-to-date list of emergency phone numbers (e.g., local fire department, local poison control center).

D. Personal Responsibility

It is the responsibility of each person using these substances to follow all prescribed safety precautions, wear personal protective equipment when necessary, and report all hazards or spills to the proper authority. The protection of life, property, and our environment depends on it.

UNOFFICIAL COPY (Final draft as approved by Board on 5-3-07)

527 CMR 31.00: Carbon Monoxide Alarms

Section

- 31.01: Purpose and Scope
- 31.02: Definitions
- 31.03: General Installation Provisions
- 31.04: Specific Installation Requirements
- 31.05: Carbon Monoxide Protection: Technical Options
- 31.06: Inspection and Maintenance Requirements
- 31.07: Landlord Installation, Inspection and Maintenance Duties
- 31.08: Carbon Monoxide Alarms Installed in Dwelling Units Inhabited by Persons Who Are Hearing Impaired
- 31.09: Emergency Planning

31.01: Purpose and Scope

The purpose of 527 CMR 31 is to provide minimum requirements for the type, installation, location, maintenance, and inspection of carbon monoxide alarms in every dwelling, building or structure in accordance with the provisions of MGL 148 Section 26F1/2. These regulations shall apply to every dwelling, building or structure including those owned and operated by the Commonwealth, occupied in whole or in part for residential purposes, that:

- (a) contains fossil-fuel burning equipment or
- (b) incorporates enclosed parking within its structure.

31.02: Definitions

As used in 527 CMR 31.00, the following definitions shall have the meanings respectively assigned to them:

Adjacent Spaces: shall mean any area, space, room or dwelling unit located directly next to, below or above any area space, room or dwelling unit that contains fossil fuel burning equipment or enclosed parking. It shall not include closets, bathrooms, cabinets or similar areas used for storage or utility purposes and temporarily occupied for activities relating to such storage or utility use.

Centralized Fossil Fuel Burning Equipment: shall mean a central heating plant, hot water heater, a combustion driven generator or fire pump, central laundry equipment, or similar equipment that emits carbon monoxide as a by-product of combustion and does not allow for air exchange between Centralized Fossil Fuel Burning Equipment and Dwelling Units or common areas.

Carbon Monoxide Alarm Protection: shall mean carbon monoxide alarm protection that may consist of either:

- (a) battery powered in compliance with NFPA 720, 5.2.3 and wireless appliances, or
- (b) ac (alternating current) plug-in with battery back up in accordance with NFPA 720, 5.2.2.6, or
- (c) ac primary power source with battery back up in compliance with NFPA 720, 5.2.2, or
- (d) low voltage or wireless systems with secondary power in compliance with NFPA 720, 5.2.4 , or
- (e) Combination Appliance.

At a minimum, all such Carbon Monoxide Alarm Protection equipment shall operate as a Single Station Alarm Device or Single Station Carbon Monoxide Alarm.

Combination Appliance: shall mean a combination photoelectric smoke detector and carbon monoxide alarm which may be battery or ac (alternating current) powered with battery back up. A combination ionization detector and carbon monoxide alarm which may be battery or ac (alternating current) powered, with battery back up, may be utilized if it is installed not less than 20 ft. from any bathroom or kitchen entryway. Such Combination Appliances shall employ both simulated voice and tone alarm features which clearly distinguishes between carbon monoxide and smoke notification, in accordance with NFPA 720, 5.3.4.

Daycare Facility: A facility licensed by the Commonwealth under MGL 28A or its successor statutes or regulations by the Department of Early Education and Care as a Child Care Center, School Aged Child Care Program, or Family Child Care Home, including Large Family Child Care and Family Child Care Plus.

Dwelling Unit: A single unit providing facilities for living and sleeping. Enclosed Parking: A structure or an area or room, or floor or level thereof, enclosed within an overall structure or attached thereto that is designed or used for the parking of vehicles and does not comply with the minimum exterior wall opening requirements of an "Open Parking Structure" as stated in 780 CMR 406.1.1, State Building Code.

Fossil Fuel Burning Equipment: Any device, apparatus or appliance which is designed or used to consume fuel of any kind which emits carbon monoxide as a by-product of combustion.

Habitable: shall mean that portion of a cellar, basement or attic that is designed, used or furnished for living purposes.

Head of the Fire Department: Shall mean the head of the Fire Department as defined in M.G.L. c. 148, s. 1, or a designee of the head of the Fire Department.

Intermittent Ignition Device: A device which ignites an automatic gas appliance to begin normal operation thereof, and which is activated only at the time such automatic gas appliance is to be so ignited.

Institutional Structures: shall include any dwelling, building or structure classified as use group I-1 through I-3, as defined in 780 CMR and those unclassified occupancies that have the same characteristics as I-1 through I-3. Where there is a dispute regarding Use Group classification of a structure, a determination shall be made by the municipal or state building inspector having jurisdiction.

Listed: A device listed by a Nationally Recognized Testing Laboratory meeting the requirements of 527 CMR 49.03 Appendix C and the standards in either IAS/CSA 6.19 or UL 2034 -Single and Multiple Station Carbon Monoxide Alarms, June 2002 Edition or UL 2075 -Gas and Vapor Detector Sensor, November 2004 Edition, as applicable for the installation.

Marshal: shall mean the State Fire Marshal or a designee of the State Fire Marshal.

NFPA 720: shall mean National Fire Protection Association (NFPA) 720 entitled "Standard for the Installation of Carbon (CO) warning Equipment in Dwelling Units", 2005 Edition.

Residential Structures: shall include any dwelling, building or structure classified as use group R-1 with less than six dwelling units or R-2 through

R-5, as defined in 780 CMR and those unclassified occupancies that have the same characteristics as a R-1 with less than six dwelling units or R-2 through R-5. Where there is a dispute regarding Use Group classification of a structure, a

determination shall be made by the municipal or state building inspector having jurisdiction.

Roof Mounted Fossil Fuel Burning Equipment :Any Fossil Fuel Burning Equipment mounted on top of a structure that is used to condition any medium through heating or cooling.

Single Station Alarm Device: An assembly that incorporates the detector, the control equipment, and the alarm-sounding device in one unit operated from a power source either located in the unit or obtained at the point of installation.

Single Station Carbon Monoxide Alarm: A detector comprising an assembly that incorporates a sensor, control components, and an alarm notification appliance in one unit operated from a power source either located in the unit or obtained at the point of installation.

State Building Code: 780 CMR, Massachusetts State Building Code, (7th Edition).

Transient Residential Structures: shall include any dwelling, building or structure classified as use group R-1 with six or more dwelling units, as defined in 780 CMR and those unclassified occupancies that have the same characteristics as R-1 with six or more dwelling units. Where there is a dispute regarding Use Group classification of a structure, a determination shall be made by the municipal or state building inspector having jurisdiction.

U.L. 2075: shall mean Underwriters Laboratory standard 2075 entitled "Standard for Gas and Vapor Detector Sensors", November, 2004 Edition.

31.03: General Installation Provisions

1. Any carbon monoxide alarm using an ac (alternating current) primary power source and any other wired carbon monoxide alarm protection equipment shall be installed and maintained in accordance with the Massachusetts Electrical Code, 527 CMR 12 and in accordance with M.G.L. c. 143, s.3L and MGL 141, s. 1A, if applicable.
2. Buildings or structures owned or operated by the Commonwealth or any local housing authority are exempt from the requirements of 527 CMR 31.04 until January 1, 2008.
3. Buildings or structures constructed, renovated or subject to a change in use for which building permits have been issued on or after March 31, 2006, shall comply with any stricter carbon monoxide alarm Requirements of The State Building Code, if applicable.

4. The installation of carbon monoxide detectors in accordance with 527 CMR 30, relating to certain Unvented Propane or Natural Gas-Fired Space Heaters, if applicable, shall satisfy the requirements of 527 CMR 31.00 for that level on which such heater is located, provided the installation complies with 527 CMR 31.04(1) (a) and (b).
5. The installation of carbon monoxide detectors in accordance with 248 CMR, The Commonwealth of Massachusetts Fuel Gas and Plumbing Code, if applicable, shall satisfy the requirements of 527 CMR 31.00 for that level on which the direct vented gas appliance is located, provided the installation complies with 527 CMR 31.04(1) (a) and (b).
6. Effective December 1, 2006 a permit shall be obtained from the Head of the Fire Department for all installations which employ one or more of the Carbon Monoxide Alarm protection options listed in 527 CMR 31.05.
The Marshal shall prescribe a uniform application form for such permit.

31.04: Specific Installation Provisions

1. Residential Structures: Effective March 31, 2006 every Residential Structure that presently or in the future contains Fossil Fuel Burning Equipment or has enclosed parking shall be equipped, by the owner, landlord or superintendent, with working and Listed Carbon Monoxide Alarm Protection.

(a) Carbon Monoxide Alarm Protection shall be located in each level of each Dwelling Unit including Habitable portions of basements, cellars and attics, but not including crawl spaces. The installation of said unit shall be located in accordance with the manufacturer's instructions.

(b) When mounting Carbon Monoxide Alarm Protection on a level of a Dwelling Unit with a sleeping area, the alarm shall be installed in the immediate vicinity of the sleeping area. At a minimum, the alarm shall be located outside of any bedroom, but shall not exceed 10 ft. as measured in any direction from any bedroom door.

(c) Alternative Compliance Options: Such Residential Structures, as an alternative to providing Carbon Monoxide Alarm Protection within each level of each Dwelling Unit, may

be protected by using one or more of the Carbon Monoxide Protection Technical Options stated in 527 CMR 31.05 1. (a) through (g) if applicable. However, notwithstanding the use of any Alternative Compliance Option, Carbon Monoxide Alarm Protection shall also be installed in any Dwelling Unit that contains Fossil Fuel Burning Equipment in accordance with 527 CMR 31.04(1)(a) and (b).

(d) Alternative compliance deadline for certain installations. Any owner who intends to meet the requirements of 527 CMR 31.04 by installing either: (1) ac (alternating current) primary power source with battery back up or wired, low voltage, carbon monoxide alarm protection or (2) an Alternative Compliance Option of 527 CMR 31.04 (1)(c), shall not be required to complete such installation until 1-1-07 if said owner provides written notification of such intent to the head of the fire department by 5-15-06. The submission of such notification shall be deemed to be the consent by the owner to the future inspection of the subject building by the head of the fire department to determine compliance. Installation of carbon monoxide alarm protection pursuant to 527 CMR 31.04(1)(d) may be allowed notwithstanding the late filing of the written notification, only upon the approval of the head of the fire department who may require temporary carbon monoxide alarm protection pending the completion of installation.

2. Other Transient Residential and Institutional Structures Required to have Hard-Wired Carbon Monoxide Alarm Protection by January 1, 2008.

(a) Effective January 1, 2008 every Transient Residential and Institutional Structure that presently or in the future contains Fossil Fuel Burning Equipment or has enclosed parking shall be equipped, by the owner, landlord or superintendent, with working and Listed Carbon Monoxide Alarm Protection as defined in 527 CMR 31.02 with the exception of option (a),

(b) and (e) if battery powered, in each level of each dwelling unit.

(b) Alternative Compliance Option: Such Transient Residential and Institutional Structures, as an alternative to providing Carbon Monoxide Alarm Protection within each level of each Dwelling Unit, may be protected by using one or more of the Carbon Monoxide Protection Technical Options stated in 527 CMR 31.05 1. (a) through (h) However, notwithstanding the use of any Alternative Compliance Option allowed under 527

CMR 31.04 2. (b), Carbon Monoxide Alarm Protection shall also be installed in any Dwelling Unit that contains Fossil Fuel Burning Equipment in accordance with 527 CMR 31.04(2)(a).

3. Day Care Facilities:

A Day Care Facility classified as either a Child Care Center, School Aged Child Care Program, Family Child Care Home, including Large Family Child Care and Family Child Care Plus by the Department of Early Education and Care shall comply with the following, as applicable:

(a) Family Child Care Home, including Large Family Child Care and Family Child Care Plus facilities shall comply with 527 CMR 31.04 (1) (a) and (b).

(b) Group Child Care and School Aged Child Care Program facilities shall install Carbon Monoxide Alarm Protection with Listed Carbon Monoxide Alarm Protection, as defined in 527 CMR 31.02, with the exception of option (a) and (e) if battery Powered, in each room used by children for sleeping, learning, or participating in other early education and care activities.

4. Roof Mounted Fossil Fuel Burning Equipment:

(a) All Residential Structures, Transient Residential Structures or Institutional Structures that presently or in the future employ Roof Mounted Fossil Fuel Burning Equipment that directly supplies air to dwelling units shall be equipped with Carbon Monoxide Alarm Protection as provided in 527 CMR 31.04 1. (a) and (b) or 527 CMR 31.04 2. (a), as applicable.

(b) All Residential Structures, Transient Residential Structures or Institutional Structures that presently or in the future employ Roof Mounted Fossil Fuel Burning Equipment that directly supplies air to common areas and not to dwelling units shall be equipped with Carbon Monoxide Alarm Protection as provided in 527 CMR 31.04 1. (a) and (b) or 527 CMR 31.04 2. (a), as applicable or employ Type F Carbon monoxide protection as provided in 527 CMR 31.05 1. (f).

(c) All Residential Structures, Transient Residential Structures or Institutional Structures that presently or in the future employ Roof Mounted Fossil Fuel Burning Equipment that does not directly supply air to dwelling units or common areas: Reserved

31.05 Carbon Monoxide Protection: Technical Options

1. Certain Residential Structures, Transient Residential Structures or Institutional Structures may present Carbon Monoxide risks in a limited or minimum portion of the structure rather than in each Dwelling Unit. The following technical options employ methods which may make it unnecessary to install Carbon Monoxide Alarm Protection in each level of each dwelling unit in accordance with 527 CMR 31.04 1. (a) and (b) or 527 CMR 31.04 2. (a), as applicable. Notwithstanding the utilization of any technical option, or combination thereof, Carbon Monoxide Alarm Protection shall also be installed in any Dwelling Unit that contains Fossil Fuel Burning Equipment in accordance with 527 CMR 31.04(1)(a) and (b) or 527 CMR 31.04 (2) (a).

(a) **Type A Carbon Monoxide protection for areas or rooms containing Centralized Fossil Fuel Burning Equipment**, shall employ **Listed** Carbon Monoxide Alarm Protection meeting UL 2075, or a low voltage or wireless system. Such installation shall provide a visual or audible alarm in the rooms or areas containing the Fossil Fuel Burning Equipment. Such installation shall be in accordance with the manufacturer's instructions. Such protection shall be monitored in accordance with NFPA 720, 5.3.9. Such method of monitoring is to be determined at the discretion of the building owner. In accordance with NFPA 720, 5.3.9.3 (1) the retransmission of the signal shall be at the discretion of the head of the fire department.

(b) **Type B Carbon Monoxide protection for areas or rooms of Centralized Fossil Fuel Burning Equipment consisting of kitchen appliances equipped with an Intermittent Ignition Device**, shall comply with 248 CMR Fuel/Gas Plumbing Code and the 2002 Edition of NFPA 54 sections 10.3.4.5 or 10.3.5.2. A written certification shall be submitted to the Head of the Fire Department from a Registered Professional Engineer licensed by the Commonwealth certifying that the kitchen appliances meet 248 CMR and said NFPA 54.

(c) **Type C Carbon Monoxide protection for areas or rooms with Centralized Fossil Fuel Burning Equipment which employ an automatic integrated shutdown device** which shall be directly connected to the fossil fuel burning equipment and an ac primary power source with battery back up in compliance with NFPA 720, 5.2.2 or low voltage or wireless systems in compliance with NFPA 720, 5.2.4 that will cause a shut down to the fossil fuel burning equipment upon activation of a

carbon monoxide detector. The device must also provide an audible or visual alarm in the immediate area of the device and fossil fuel burning equipment.

The fossil fuel burning equipment must be manually restarted after activation. A sign shall be mounted in the vicinity of the device with a minimum of 1 inch high letters in contrasting color with the following statement: "If the carbon monoxide detector has activated, do not restart the equipment until serviced by a qualified technician".

Exception: Such shut down requirement shall not be applicable to systems that are part of an emergency or standby system required by any municipal, state or federal law or *regulation provided the Carbon Monoxide detection system shall be monitored in accordance with NFPA 720 5.3.9.*

(d) Type D Carbon Monoxide protection for adjacent spaces of structures, areas or rooms considered Enclosed Parking, shall employ Listed Carbon Monoxide Alarm Protection meeting UL 2075 or a low voltage or wireless system. Such installation shall provide a visual or audible alarm in the rooms or areas containing the Fossil Fuel Burning Equipment. Such protection shall be monitored in accordance with NFPA 720, 5.3.9. Such method of monitoring is to be determined at the discretion of the building owner. In accordance with NFPA 720, 5.3.9.3 (1) the retransmission of the signal shall be at the discretion of the head of the fire department.

(e) Type E Carbon Monoxide protection for Enclosed Parking, shall employ, `in the enclosed parking either: i.) an automatic mechanical ventilation system that automatically operates upon detection of carbon monoxide in accordance with 780 CMR 2801.2, without exception or reduction, and provides for a supervisory alarm at 50 ppm in accordance with NFPA 720, 5.3.9. Such method of monitoring is to be determined at the discretion of the building owner in accordance with NFPA 720, 5.3.9.3 (1), and the retransmission of the signal shall be at the discretion of the head of the fire department; or ii.) The enclosed parking has continuous mechanical ventilation at a minimum rate in accordance with 780 CMR 2801.2, without exception or reduction. Such system shall employ a sensor to ensure the minimum airflow as designed is operating through the system. The sensor shall monitor direct airflow and shall be connected to the fire alarm panel as a supervisory alarm in accordance with NFPA 720, 5.3.9. A registered Professional Engineer licensed by the Commonwealth

shall provide written certification to the head of the fire department that the subject enclosed parking meets the requirements of 527 CMR 31.05 1(e).

(f) Type F Carbon Monoxide protection for Roof Mounted Fossil Fuel Burning Equipment that circulate air from said unit to common areas only, shall be equipped with the following: i. A duct Carbon Monoxide gas detection device shall be installed on the supply side of the Roof Mounted Air Handling Unit or the common areas on the floor closest to the initial supply discharge from the Roof Mounted Air Handling Unit. All such devices shall be installed in accordance with the manufacturer's instructions.

The Carbon Monoxide gas detection device shall automatically alarm upon detection of carbon monoxide at 50 parts per million (ppm) and provide for a supervisory alarm in accordance with NFPA 720, 5.3.9. Such method of monitoring is to be determined at the discretion of the building owner in accordance with NFPA 720, 5.3.9.3 (1), and the retransmission of the signal shall be at the discretion of the head of the fire department.

Upon activation of the Carbon Monoxide detection device and supervisory alarm, the roof mounted fossil fuel burning equipment shall shutdown until manually reset.

Exception: Such shut down requirement shall not be applicable to systems that are part of an emergency or standby system required by any municipal, state or federal law or regulation.

(g) Type G Carbon Monoxide protection for Roof Mounted Fossil Fuel Burning Equipment that do not circulate air to any common area or dwelling unit, shall be equipped with the following: Reserved

(h) Type H. Carbon Monoxide protection for certain Institutional structures that contain Fossil Fuel Burning equipment that circulates air to patient rooms, inmate rooms or common areas. Carbon Monoxide protection for certain Institutional structures classified as either Use Group I- 2 or I-3, that contain Fossil Fuel Burning equipment that circulates air to dwelling units occupied by patients or inmates may be equipped with type H protection if the following conditions are met:

a. Such structure contains dwelling units occupied by a person or persons who are not capable of self preservation

due to age, mental disability, medical condition, incarceration, restraint or security, and

b. the occupants are under constant supervision on a 24 hour basis.

Type H protection shall include a duct Carbon Monoxide gas detection device which shall be installed downstream of air filters, ahead of any branch connections in air supply systems of the fossil fuel Air Handling Unit. All such devices shall be installed in accordance with the manufacturer's instructions. The Carbon Monoxide gas detection device shall automatically alarm upon detection of carbon monoxide at 50 parts per million (ppm) and provide for a supervisory alarm in accordance with NFPA 720, 5.3.9. Such method of monitoring is to be determined at the discretion of the building owner in accordance with NFPA 720, 5.3.9.3 (1), and the retransmission of the signal shall be at the discretion of the head of the fire department. Upon activation of the Carbon Monoxide detection device and supervisory alarm, the fossil fuel burning equipment shall shutdown until manually reset.

Exception: Such shut down requirement shall not be applicable to systems that are part of an emergency or standby system required by any municipal, state or federal law or regulation.

31.06: Inspection and Maintenance Requirements

1. The head of the fire department or designee shall enforce the provisions of 527 CMR 31.00, including the inspection for conformance with the carbon monoxide alarm requirements, upon sale or transfer of such dwelling, building or structure used in whole or in part for residential purposes.

31.07 Landlord Installation, Inspection and Maintenance Duties

1. Every owner, superintendent, or landlord shall, at a minimum, maintain, test, repair, or replace, if necessary, every carbon monoxide alarm upon renewal of any lease term for any dwelling unit or on an annual basis, whichever is more frequent. All common areas shall be inspected annually. All carbon monoxide alarm batteries shall be replaced, on an annual basis by the owner, landlord or superintendent.

Exception: Low voltage system batteries shall be maintained in accordance with applicable sections of NFPA 720.

2. The owner, superintendent, or landlord of every structure that employs one or more of the Carbon Monoxide Protection Technical Options listed in 527 CMR 31.05 shall be responsible for the care and maintenance of such equipment and devices. Annually, the owner, superintendent or landlord of every structure shall submit to the head of the fire department a record of inspection, maintenance and testing on a form prescribed by the Marshal. Carbon monoxide systems shall not be disconnected or otherwise rendered unserviceable without first notifying the fire department in accordance with MGL 148 s. 27A.